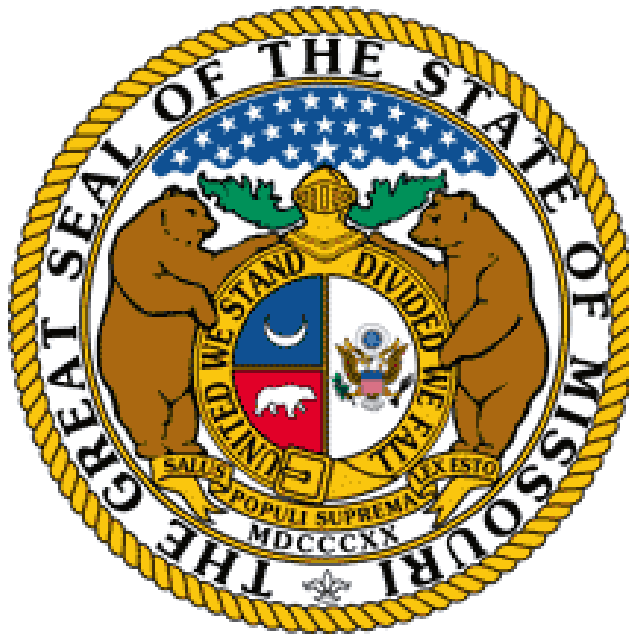


# **State of Missouri**

## **Annual Recycling Report**



## **Fiscal Year 2010**

*Prepared By:*  
*State of Missouri, Office of Administration*

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# Acknowledgements

*Published by the State of Missouri, Office of Administration, Division of Purchasing and Materials Management.*

*Special thanks to the Missouri Interagency Recycling Committee (MIRC), department recycling coordinators and purchasing staff who contributed to this report. The Missouri State Recycling Program also wants to thank all state employees for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.*

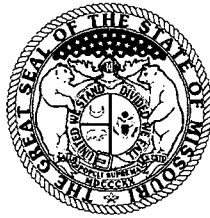
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**James Miluski**  
Director

To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration is submitting the Fiscal Year 2010 (FY10) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content product procurement for the period of July 1, 2009 through June 30, 2010.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Coordinator works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

After the market failure that started at the beginning of FY10 (October, 2009), recycling markets had stabilized by the end of FY10. Despite the unprecedented market drop, the State Recycling Program was able to generate the 2<sup>nd</sup> highest one-year revenue stream in the program's history. When compared to FY09 revenues there was a 35% increase in recycling revenues generated in FY10. (see Missouri's State Recycling Fund section).

One significant development that occurred in FY10 is the State Recycling Program became completely financially self-sustaining as the salary and fringe of the Program's one FTE is now paid by proceeds generated from recycling.

A new feature in this year's report is our first effort to quantify the pollution prevented and energy saved that resulted from the various amounts of materials recycled by state government. Executive Order 2009-18 directs state government to reduce energy consumption by a minimum of two percent each year and recycling plays a role in achieving this goal. The estimated reductions in pollution and energy saved as a result of FY10 recycling efforts are illustrated on p. 10 of this report.

State government recycling efforts continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. The achievements of several agencies in the area of recycling and waste reduction are summarized on pages 11 – 16 of this year's report

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

A handwritten signature in cursive script that reads "Kelvin L. Simmons".

Kelvin L. Simmons  
Commissioner of Administration

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# I. Missouri State Recycling Program Structure

## What is the Missouri State Recycling Program?

The Missouri State Recycling Program (**MSRP**) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the **MSRP** is to assist State of Missouri government agencies with:

- **Procurement** of products manufactured with recycled materials.
- Coordinating **waste reduction** strategies.
- Overseeing the **collection** of recyclables by establishing recycling services contracts.

## Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



## What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (**MIRC**) was established in 1994. It was recognized the **MSRP** needed a way to communicate procurement and recycling policies throughout state government. **MIRC** is a vital component of the **MSRP** and meets regularly to discuss issues dealing with recycling collection, waste reduction, recycling market conditions and recycled product procurement.

## Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member.

A list of members is located on the internet at [www.oa.mo.gov/purch/recycling/mirc.pdf](http://www.oa.mo.gov/purch/recycling/mirc.pdf)

## II. FY10 Overview: Collection of Recyclables

### Local Recycling Services Contracts

In FY10, the Missouri State Recycling Program (MSRP) administered two local recycling services contracts. Areas covered by these contracts included Jefferson City and Kansas City. These contracts provided state agencies an option to recycle office paper and cardboard at no cost.

#### Jefferson City

In FY10 the Jefferson City contract continued to offer recycling services for mixed paper, cardboard (baled & loose), and commingled beverage containers (aluminum cans, #1 & #2 plastic bottles).

The Jefferson City recycling services contract performed well in FY10 despite receiving minimal payments for several months due to a drop in the recycling markets which started in October, 2009. FY10 revenues generated by the Jefferson City contract were down 18% as compared to FY09. Despite this decline in revenues, state agencies generated \$59,925 in revenue for the State Recycling Fund by utilizing the Jefferson City recycling services contract.

FY10 marked the second full year commingled beverage container recycling was available to state agencies. Ten locations were added to the beverage container recycling route in FY10 bringing the total number of locations on the route to thirty-one. State agencies recycled 13,479 lbs. of aluminum cans and 9,744 lbs. of plastic bottles in FY10.

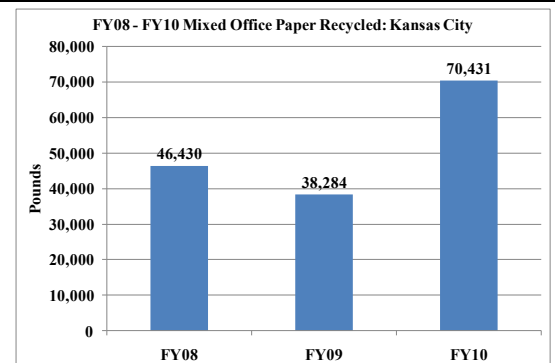
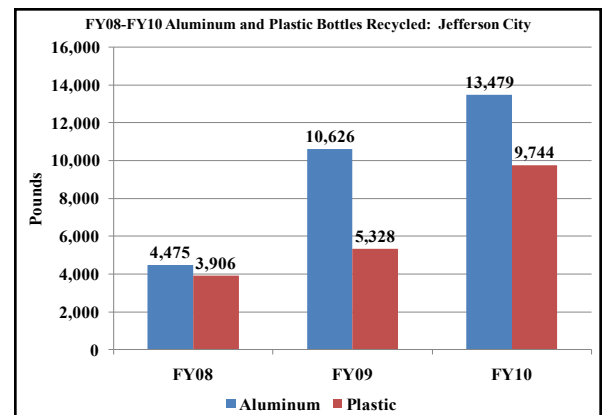
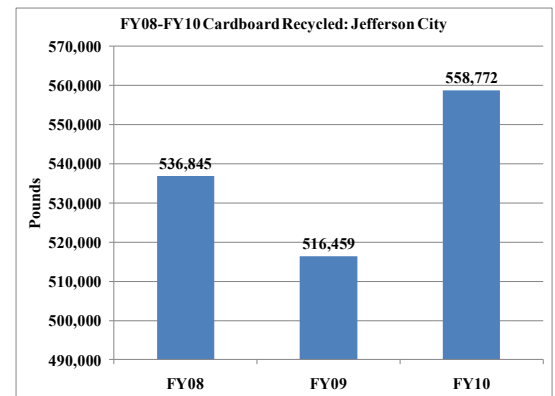
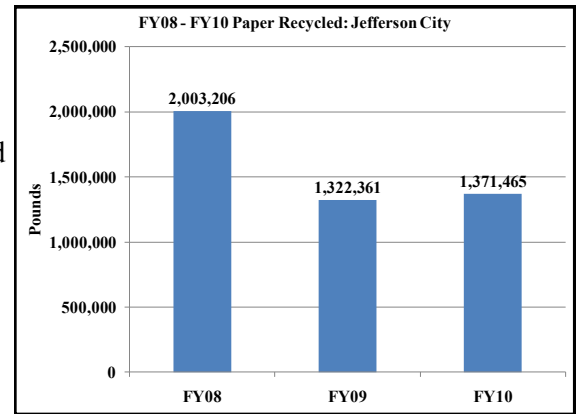
The contract also allowed for collection of loose cardboard. In FY10 three new locations were added to the loose cardboard collection route — bringing the total number of state agency locations on this route to forty-nine.

Total cardboard collected in FY10 which included baled and loose material amounted to an estimated 558,772 lbs. This figure translates into an average of over 10,000 lbs. per week recycled by state employees. This amount includes over 76,000 lbs. of baled cardboard collected from the Truman Building and Highway Patrol warehouse.

The subcontractor, Kingdom Projects (a sheltered workshop), provided loose cardboard collection services and hauled commingled beverage containers to their recycling facility where cans and bottles were sorted for recycling.

#### Kansas City

The Kansas City contract offered state agencies the option to recycle cardboard and mixed office paper at no cost. State employees in Kansas City recycled 70,431 lbs. of paper and 2,030 lbs. of cardboard. The amount of paper recycled was enough to nearly fill two 48-foot tractor trailers.

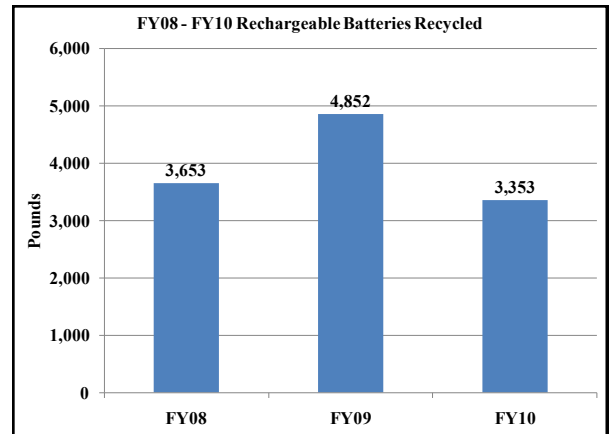


# Statewide Recycling Services

The Missouri State Recycling Program (MSRP) coordinated two no-cost statewide recycling services for state agencies in FY10. These convenient services allowed state employees to recycle inkjet cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based services for document destruction and lamp recycling.

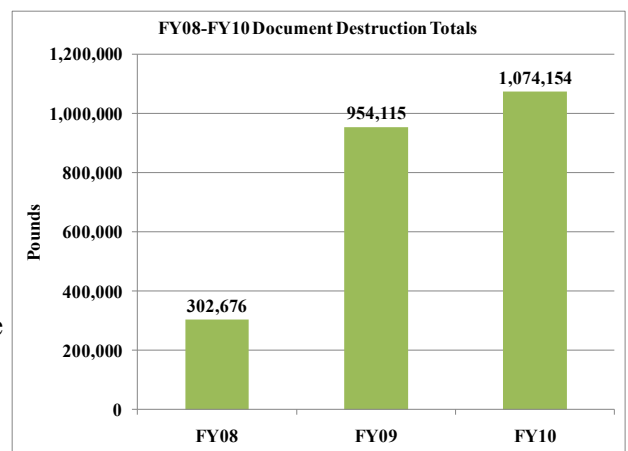
## Rechargeable Battery Recycling

FY10 marked the sixth year this service has been available and state agencies recycled a total of 3,353 lbs. of rechargeable batteries. In the past six years, state government has recycled 26,057 lbs of rechargeable batteries. At the close of FY10 there were seventy-one locations throughout Missouri registered for the rechargeable battery recycling service.



## Shredding & Records Disposal Contract

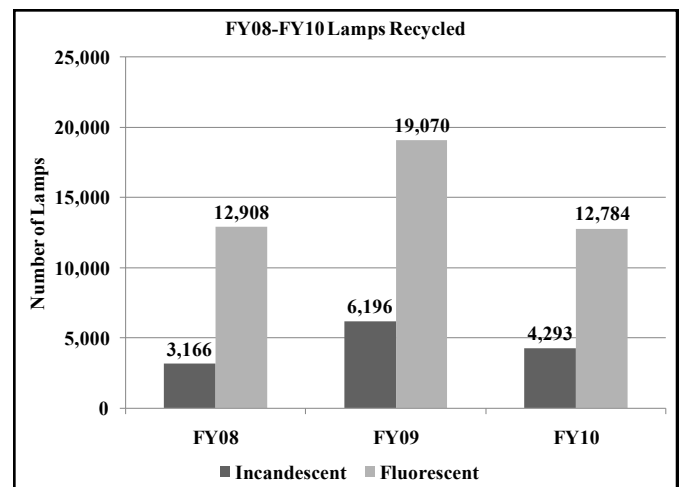
This contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed for a fee. Cost varied depending on volume to be destroyed and location of state agency. The chart to the right shows how many pounds were shredded by agencies utilizing this contract from FY08 through FY10.



The total amount of paper shredded by state agencies in FY09 (954,115 lbs.) more than tripled from FY08 (302,676). This significant increase may be due to increased usage of the state contract and better reporting from the contractors.

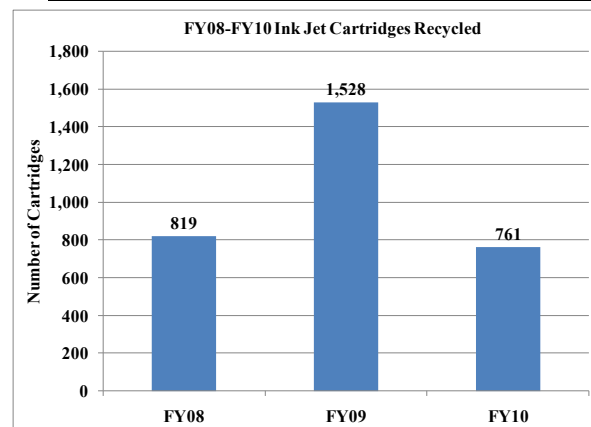
## Lamp & Ballast Recycling Contract

This contract provided a way for agencies to recycle both fluorescent and incandescent lighting as well as related lighting equipment (i.e., ballasts). Agencies were also able to recycle non-rechargeable batteries through this contract.



## Inkjet Cartridge Recycling

The figures reflected in the chart to the right only account for agencies utilizing the State Recycling Program's ink jet collection service. The chart does not reflect cartridges returned to the manufacturer by state agencies.



# FY10 Department Reports of Materials Recycled

Number of Pounds Recycled	Supreme Court	Agriculture	Conservation	Corrections	Elementary & Secondary Educ.	Health & Senior Services	Secretary of State	House of Representatives	Insurance, Finan. Inst., Prof. Reg.	Labor & Industrial Relations	Office of State Courts Admin.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Social Services	Transportation	Totals by Material
Aluminum	460	640 C	885	40,071 C	C	C	C	C	C	C	C	782	1,692 C	C	70 C	C	C	67,684	124,809
Ballasts			471															374	845
Batteries-Non Recharge	22		11										223		225			308	789
Batteries-Recharge			321	4,777						41	62	222	354	354	10,656		12	2,677	19,476
Cardboard		15,040 C	3,860	1,166,513 C	C	C	C	C	C	C	C	46,435 C	7,611 C	3,754 C	17,000 C	C	C	103,204 C	1,878,619
Carpet Tiles																			20,000
Commingled Materials													6,837						6,837
Electronic Scrap													582					2,280	22,862
Food-Yard Waste		350,000		1,992,384								1,850	4,000		80			305,200	2,653,514
Glass			60									6,684							6,744
Magazines & Catalogs			510	405								2,220	1,333		400			2,600	7,468
Media, Storage					778	4,333		46			68			14,160		321		463	21,242
Mercury Devices																		23	23
Mixed Office Paper	C	C	12,800	158,252			183,011		1,597			118,085	67,312		3,000	685,550		62,000	2,733,503
Newsprint			C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	6,553
Plastic		1,620 C	320	1,199								2,550	2,109		375				145,500
Rubber, Scrap Tires			745	57,213 C	C	C	C	C	C	C	C	26,254	2,614 C	500 C	100 C	C	C	47,400	1,818,220
Scrap Metal		45	150	10,296								1,000			83,799			1,722,930	4,619,137
Styrofoam		14,000	31,488	273,493								133	2,608	160,559	316,060			3,820,796	90
Telephone Books												1,190	90						200
Textiles			260	25,000									523		263				2,436
Tin / Steel Cans																			25,000
Totals by Agency			50	360,737								500	1,005		360			800	363,452
Agency	482	381,345	51,931	4,090,340	778	4,333	183,011	46	1,597	41	130	201,221	105,577	179,327	432,388	685,871	12	6,138,939	14,477,118

Total Pounds Recycled in FY10: 14,477,118

**Note on Boxes with C's:** A "C" in a box on this table indicates an agency recycled the designated item by utilizing the Jefferson City (JC) recycling services contract. A box that has a number over a "C" indicates the agency reported material that was recycled, but not reported in the JC contract figures. For example, Agriculture reported 640 lbs. of aluminum recycled — probably from areas other than JC—and Agriculture offices in JC utilized the JC Recycling Contract to recycle aluminum.

**Note on "Totals by Material":** Totals for Aluminum, Cardboard, Mixed Office Paper, and Plastic include figures reported by recycling contractors. Totals for Carpet Tiles, Electronic Scrap, and Media include figures reported by Surplus Property. These figures are summarized in a table on p. 9 of this report. Agencies that utilized a recycling contract, but do not appear in this table include: **State Auditor, State Treasurer, Economic Development, Higher Education, Lottery, Senate, State Tax Commission, Attorney General's Office, and Governor's Office.**



## FY10 Department Reports of Materials Recycled (cont.)

### Contractual Reporting / Surplus Property Summary Information for Table on Page 8

Total pounds recycled by agencies utilizing the Jefferson City and Kansas City recycling services contracts are summarized in the table to the right. These figures are reported as cumulative totals due to contract reporting. Data is reported by building and it is not feasible to break out data by agency where there are multiple agencies in the same building.

### FY10 Recycling Contract Totals

	Jefferson City	Kansas City
<b>Paper</b>	<b>1,371,465</b>	<b>70,431</b>
<b>Cardboard</b>	<b>513,172</b>	<b>2,030</b>
<b>Aluminum</b>	<b>12,525</b>	<b>0</b>
<b>Plastic</b>	<b>9,054</b>	<b>0</b>

### FY10 Surplus Property Totals

<b>Carpet Tiles</b>	<b>20,000</b>
<b>Electronic Scrap</b>	<b>20,000</b>
<b>Media, Storage</b>	<b>2240</b>

Total pounds recycled by agencies utilizing State Surplus Property is summarized in the table to the left. For the past two years the State Recycling Program has been working with Surplus Property to measure surplus materials that are recycled.

### Number of Items and Gallons Recycled Table

Number of Items Recycled	Books, Bound Publications	Cell Phones	Fluorescent Lamps	Incandescent Lamps	Inkjet & Toner Cartridges	Fuel/Oil Filters	Pallets	Tyvek Envelopes	Number of Gallons Recycled				
									Anti-freeze	Diesel / Gasoline	Oil, Cooking	Oil, Motor	Paint
Insurance, Financial Inst., Prof. Reg.					10								
Labor & Industrial Relations		5											
Auditor's Office					31								
Elementary & Secondary Education					9								
Treasurer's Office					155								
Agriculture					3	50						140	
Conservation	50	97	501		125		17		50			2,070	12
Corrections		12	3,500		2,368	710	8,493		150	325	1,650	2,643	
Economic Development					12								
Health & Senior Services					64								
Mental Health		12	20		904	2	292				230	706	80
Natural Resources			448		309	4	10	300	2			404	
Office of Administration		2	7,599		8		661						
Public Safety		93	3,879		1,224	5,914	10,300				1,100	5,725	
Revenue					1								
Social Services		12			235								
Transportation		870	4,236	4,293	832		4,100	400	4,394	305		74,769	
<b>TOTALS</b>	<b>50</b>	<b>1,103</b>	<b>20,183</b>	<b>4,293</b>	<b>9,944</b>	<b>6,680</b>	<b>23,873</b>	<b>700</b>	<b>4,596</b>	<b>630</b>	<b>2,980</b>	<b>86,457</b>	<b>92</b>

Note on Total for Ink Jet & Toner Cartridges: 761 ink jet cartridges were recycled by employees using a statewide service for this item.

## Measuring the Environmental Savings of Materials Recycled\*

The MO State Recycling Program worked with the Department of Natural Resources' Energy Center to utilize the Environmental Protection Agency's Waste Reduction Model (WARM) as a way to measure the environmental savings of materials recycled by state agencies in FY10. Essentially WARM is a life-cycle analysis tool that has been in development for over 10 years.

The WARM model helps us to better understand the benefits of alternative end-of-life waste management decisions such as recycling. The WARM model is a lifecycle assessment tool which considers the energy usage and greenhouse emissions from raw material until disposal. This includes material assessment, all product transportation, manufacturing, and disposal. The model compares different disposal scenarios such as recycling, landfill, incinerating, composting, and source reduction.

## Carbon Dioxide Reductions Related to Recycling\*

State of Missouri recycling efforts resulted in an estimated reduction of green house gasses of 23,209 MTCO<sub>2</sub>E (metric tons of carbon dioxide equivalent). This is equivalent to . . .

- **Removing annual emissions from 4,251 passenger vehicles**
- **Conserving 2,634,347 gallons of gasoline**
- **Conserving 9,670,250 cylinders of propane used for home barbeques**
- **Conserving 121 railway cars of coal**

## Energy Reductions Related to Recycling\*

The amount of material recycled by state employees in FY10 also resulted in a estimated reduction in energy use of 295,578,000,000 (nearly 3 billion) BTUs. This amount of energy is equivalent to . . .

- **Conserving 2,756 households' annual energy consumption**
- **Conserving 50,962 barrels of oil**
- **Conserving 2,378,215 gallons of gasoline**

\*Department of Natural Resources' Energy Center calculated these estimates utilizing the EPA's WARM model.



## Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and then vote for an individual and agency awards. The State Recycling Program encourages nominators to submit information demonstrating the **value** of the nominee's recycling efforts. **Value** could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, environmental benefits, etc.

### FY10 Annual Recycling Awards

#### Individual Award: Curtis Dowden, Missouri Department of Transportation, District 9

Curtis Dowden's nominator stated that he takes environmental responsibility very seriously. This is one quality that certainly helped him to earn this year's Annual Recycling Award.

Mr. Dowden initiated a plastics recycling program approximately two years ago. He now collects an average of seventy pounds of plastic each week from the Willow Springs District Office, Garage Complex, Maintenance Buildings, and Construction Offices. He stores this plastic at his home until he has enough to create a bale for sale. In the words of his nominator, "Dowden's efforts have truly been above and beyond those required by the duties of his office. He has donated a great deal of his own time and energy to support recycling at work as well as at home."

The proceeds from his recycling efforts are directed to a non-profit Christian mission work called "Recycle for Christ's Sake". Mr. Dowden's efforts have contributed to building a school in the Philippines, providing school supplies for underprivileged children in Morocco, and drilling wells for clean water in western Africa.

His leadership with recycling at MoDOT has also resulted in decreased trash hauling costs and lowered the amount of plastic destined for the landfill. Equally important Mr. Dowden is also playing a part in providing raw materials for the manufacturing industry.

#### Agency Award: Missouri Department of Transportation—New Franklin Parkway Project

The New Franklin Parkway Project involved removing a bridge over the Katy Trail as it had become functionally obsolete and in need of removal. Recycling was one of the primary goals during the planning stages of the New Franklin Parkway Project. By considering options to recycle the demolition debris early in the planning stages, MoDOT was able to realize significant savings on the project. Planning with recycling in mind also prevented nearly 10,000 tons of material from being landfilled.



L. to R. Mike Wake, Curtis Dowden, Governor Nixon, Cindy Norman



L. to R. Cindy Norman, Timothy Sims, Aaron Peck, Daniel Niec, Governor Nixon, Preston Kramer, Kathryn Harvey, Aaron McVicker, Erin Gruber

#### New Franklin Parkway Project Highlights

- 120 ft. of bridge rail was repurposed as a pedestrian fence
- 5200 tons of crushed concrete from old bridge was used for roadway base - resulting in a \$25,000 savings
- 3000 tons of crushed concrete from old bridge remains nearby for future maintenance needs
- Salvage value of scrap metal resulted in overall lower project cost

## FY10 Annual Recycling Awards Honorable Mention

A significant number of nominations were received for the FY10 award. The State Recycling Program thanks those who took the time to make a nomination and at the same time wants to recognize the patience, passion, and persistence that the nominees have exercised with their efforts to reduce, reuse, and recycle state government waste.

### Individual Honorable Mentions

- **Doug Dunn (DNR)**
- **Amy Russell (MoDOT)**

### State Agency Honorable Mentions

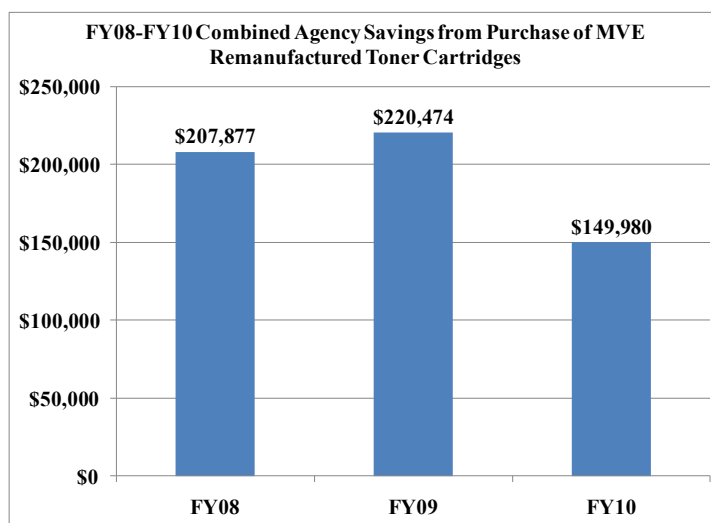
- **Missouri Economic Research and Information Center - Green Team (DED)**
- **MoDOT District 8 - General Services**

## II. FY10 Overview: State Agency Waste Reduction / Recycling Accomplishments

### Remanufactured Toner Cartridges: State Agency Savings

For over 10 years Missouri Vocational Enterprises (MVE) has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The chart to the right illustrates the combined agency savings over the past five years for agencies that purchased remanufactured toner cartridges from MVE. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supplies contract. From FY08 - FY10 state agencies saved over \$500,000 dollars by utilizing MVE's toner cartridge remanufacturing service.



### MOSERS Goes Green with E-Newsletter

As of March 30th, 2010 there were 42,969 active state employees getting their *PensionsPlus* newsletter electronically, saving the system approximately \$73,900 per year. Of MOSERS' retirees, 10,415 receive their *RetireeNews* newsletter online, saving the system approximately \$17,900 annually. That's quite an economic and environmental impact members are making! In addition, they were able to read their newsletters sooner than members who waited for their copies to arrive in the mail. Both active and retired employees can also choose to receive electronic notification that their *Annual Benefit Statements* have been posted to the secure member area of our website. The cost savings on just this one mailing each year comes to approximately \$18,000 for active employees and \$4,500 for retirees. Plus, your statement remains online in your secure member site, so you can access it anytime you want or need to!

## New Tool Facilitates Reuse of State Property

Widespread use of the Purchasing Committee listserv in FY10 helped agencies to streamline the surplus property process. Essentially the listserv is an email distribution list that allows agencies to communicate with other state agencies about property that is no longer needed or issue an email to find items that they need to acquire. Typically the exchange of property through the listserv does not cost state agencies any money.

Agencies have successfully distributed items such as three-ring binders, printer cartridges, furniture, office partitions, electronics, and numerous other office supplies. The estimated savings to state government is in the thousands of dollars.

The Office of Administration's Division of Purchasing (OA/DPMM) regularly uses the listserv to find agencies in need of three-ring binders that it acquires through the bidding process. In FY10 OA/DPMM was able to distribute over nine hundred binders to other state agencies through the listserv. It is conservatively estimated that state government saved at least \$877 by reusing binders acquired by OA/DPMM.

In order to participate with the Purchasing Committee listserv, a state employee must register with the listserv administrator. Since State Surplus Property rules apply to distribution of property via the listserv it is a good idea for employees who normally handle disposal of property to register. Here is a web link to the registration page <http://lists.mo.gov/mailman/listinfo/purchcomm>



RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; the least amount of trash per capita; or have the highest recycling rate.

The following Missouri schools participated in the 2010 national competition: **Park University; University of Missouri - Kansas City; Missouri University of Science & Technology; University of Missouri - Columbia; Missouri State University; Washington University in St. Louis; Northwest Missouri State University; University of Central Missouri; and Missouri Western State University.**

The State Recycling Program applauds Missouri's colleges and universities for their participation in the national RecycleMania competition!

## State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **7,239** tons (see chart on p. 8) of materials recycled in FY10. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$307,658** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri's landfills. The average tipping fee in Missouri was \$42.50 per ton in FY10.

The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate. The actual cost avoidance realized by state agencies in FY10 would likely be much higher.



## Surplus Property = Reusable Property

Every day, employees at the Missouri State Agency for Surplus Property (MOSASP) hear stories about agencies that have found ways to reuse the Government's surplus property. Take for example, the Bates County sheriff's department who recently obtained a travel trailer which they are converting into an emergency response center.



Sheriff Chad Anderson said when he decided to run for Sheriff, he was told it would be an easy job because they rarely have any problems in their county. However, in the first year and a half, he has had nine different standoff incidents. He found that working out of his pickup didn't work very well in those situations, so that's when he came to Surplus property and found a travel trailer. It's already lettered and he is currently having radios and computer equipment installed. Southwest Major Case Squad will also be using this unit during emergencies through mutual aid agreements.

In addition, the College of the Ozarks located in Point Lookout, MO who obtained two Dodge tugs in 2009. They painted these tugs and converted them into flat bed trucks (see pictures below).



Also the Montgomery County Public Water Supply District, Warrenton who had applied for a \$62,000 grant to obtain a new generator so the water system would remain operational in the event of a power outage. Unfortunately they didn't get the grant. Fortunately they came to MOSASP. They found a slightly used 200 KW generator that had just arrived from the Azores. While this was larger than what they would have purchased if they had gotten the grant, they couldn't pass up the service charge of \$12,000. They are now working on getting the generator installed so the patrons of the District will know they do not have to worry about water.

Just like these customers, MOSASP has always made full use of the program by reusing property that comes in. However, last year they found it was time to show how strongly they believe in the program. At that time they moved into a new facility that was built entirely with Surplus Property funds. These funds represent the results of MOSASP fulfilling its mission to recover value from items no longer needed by the federal government. Every cost saving measure was looked at during this project and loyal to its mission, Surplus Property reused furniture, shelving, modular systems, and carpet. Wherever possible, MOSASP lead by example and utilized surplus property to reduce costs. MOSASP employees hauled rock with a surplus dump truck, spread it with a surplus loader, and rolled it with a surplus roller. Employees moved property from the old location to the new site rather than contracting for moving services which saved additional money.

MOSASP is very proud of the fact that surplus property was distributed to customers in 107 counties during FY10. That means state agencies, cities, counties, schools, water districts, fire districts, ambulance districts, nonprofit health and educational institutions, providers of assistance to the homeless and needy, agencies that receive older American act funding, boy scouts, girl scouts, Jr. ROTC programs, etc. throughout the State know they can stretch their dollar further by reusing property obtained from MOSASP.

# Harry S Truman Building Waste Audit

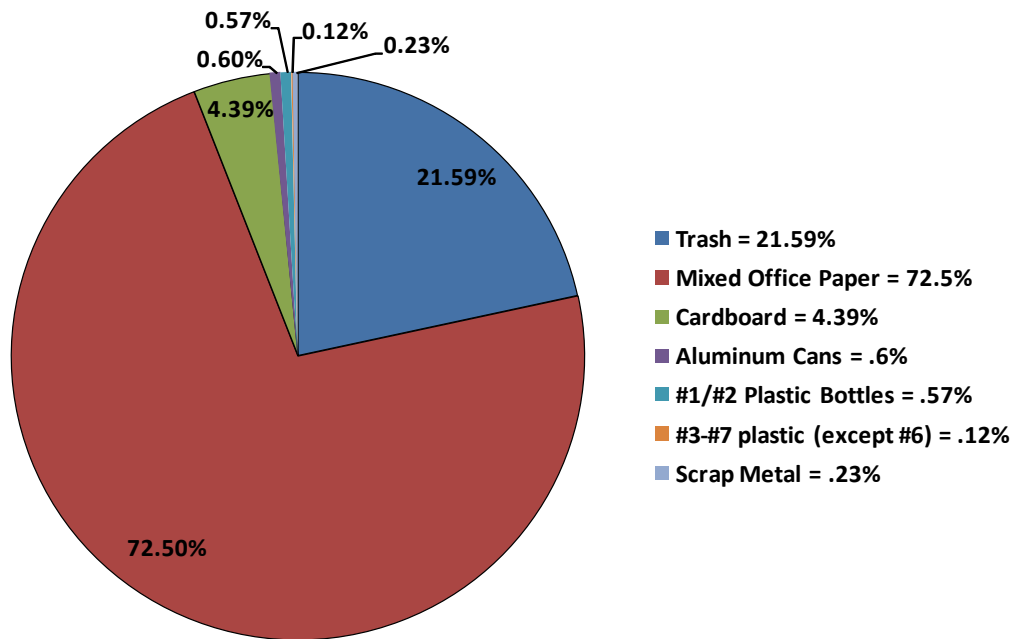
A whole building waste audit of the Truman Building in Jefferson City was conducted over a two day period from June 24 – 25, 2009. Although the audit was performed in the last week of FY09, the data gathered was not utilized until FY10. For example, the audit produced data that allowed the State Recycling Program to more accurately measure commingled aluminum can and plastic bottle weights.

The Truman Building has 2,506 employees making it the largest government building in the state. The purpose of this waste audit was to quantify waste (trash and recycling) handling practices; set baselines to compare with future waste assessments; identify areas of improvement; and to determine average container weights for commingled plastic bottles and aluminum cans for contract reporting purposes.

## Waste Audit Findings

- One day of waste (trash & recyclables) = 3,363 lbs.
- Average materials recycled in one day = 2,500 lbs.
- Percent of waste stream recycled = 74%
- Daily average of materials recycled:
  - ⇒ Mixed Office Paper = 2,367 lbs.
  - ⇒ Cardboard = 110.9 lbs.
  - ⇒ Aluminum = 12.42 lbs.
  - ⇒ #1 / #2 Plastic Bottles = 9.82 lbs.

Percentage of Materials in Truman Building Waste Stream by Weight



**Note on Trash:** For the purposes of this audit, trash was defined as any material that did not have an accessible recycling solution. For instance, food waste and foam carryout containers were considered trash.

## Average Daily Recyclable Materials Found in the Trash

- Mixed Office Paper = 71.2 lbs.
- Cardboard = 36.7 lbs.
- Aluminum = 7.9 lbs.
- #1 / #2 Plastic Bottles = 9.2 lbs.

## State Buildings Demonstrate Significant Reduction of Trash

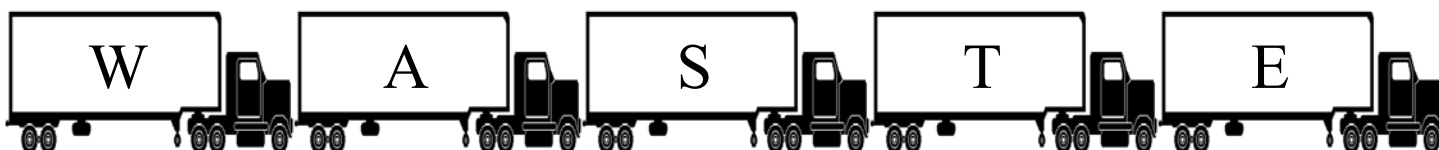
The Harry S Truman building and James C. Kirkpatrick State Information Center (SIC) located in Jefferson City utilize trash compactors for managing waste. The Truman building compactor has a capacity of 42 cubic yards and the SIC compactor has a 20 cubic yard capacity. These compactors are only picked up when full which allows for more accurate measurement of waste generated in these buildings. Both of these buildings actively recycle mixed office paper, cardboard, aluminum cans, and plastic bottles and the results of state employee recycling efforts in these buildings is apparent in the reduction of the amount of trash generated.

### Reduction in Trash Volume (measured in cubic yards)

	FY08	FY09	FY10
State Information Center	220	200	160
Harry S Truman Bldg	1,512	1,218	882

- The State Information Center realized a **27% reduction** in the volume of trash sent to the landfill. In FY10 **60 cubic yards less trash** was sent to the landfill than in FY08. This is equivalent to half the volume of a 48-foot tractor-trailer!
- The Truman Building realized a **42% reduction** in the volume of trash sent to the landfill. In FY10 **630 cubic yards less trash** was sent to the landfill than in FY08.

**How much is 630 cubic yards?** This is equivalent to five 48-foot tractor trailers filled from floor to ceiling in volume. The picture below illustrates how much less trash was sent to the landfill from the Truman Building in FY10 as compared to FY08.



### Reduction in Trash Hauling Costs\*

	FY08	FY09	FY10
State Info Center	\$3,550	\$3,605	\$3,063
Truman Bldg	\$13,022	\$12,672	\$9,577

- The State Information Center realized a **14% reduction** in cost from FY08 to FY10 — **spending \$487 less** on trash hauling costs in FY10 than in FY08.
- The Truman Building realized a **26% reduction** in cost from FY08 to FY10—**spending \$3,445 less** on trash hauling costs in FY10 than in FY08.




# FY10 Overview: Recycled Content Procurement

## Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as “closing the loop”. Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency’s (EPA) “**Comprehensive Procurement Guidelines (CPG)**” for recycled content products as a roadmap for the State of Missouri to continue working towards “closing the loop”.

### Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product







There are 8 categories designated in the CPG. Product categories and individual items in these categories are listed below. **Products identified by the recycling symbol  also appear in the Missouri Recycled Products Directory** published by the Environmental Improvement and Resources Authority’s Market Development Program. This publication is a good resource for locating recycled products manufactured and distributed in Missouri. Additional information about this directory may be found in the “Recycling Resources” section on p. 22 of this report.

Product Fact Sheets may be found for each of these categories on the internet at the following address:


<http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm>

## Comprehensive Procurement Guidelines: Recycled Product Categories





### 1. Construction Products

-  **Building Insulation**
  - Carpet (polyester)
  - Carpet Cushion
  - Laminated Paperboard
-  **Cement & Concrete Containing**
  - **Coal fly ash**
  - Furnace slag
  - Ground granulated blast
  - Cenospheres
  - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
-  **Patio Blocks**
  - Railroad Grade Crossing Surfaces
-  **Roofing Materials**
-  **Shower & Restroom Dividers/Partitions**
-  **Structural Fiberboard**




### 2. Landscaping Products

-  **Compost Made from Yard Trimmings or Food Waste**
  - Garden & Soaker Hoses
-  **Hydraulic Mulch**
  - Lawn & Garden Edging
-  **Plastic Lumber Landscaping Timbers & Posts**

### 3. Park & Recreation Products

-  **Park Benches & Picnic Tables**
-  **Plastic Fencing**
-  **Playground Equipment**
-  **Playground Surfaces**
  - Running Tracks

### 4. Paper Products

-  **Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)**
  - Miscellaneous Papers
  - Newsprint
-  **Paperboard & Packaging Products**
-  **Printing & Writing Papers**

### 5. Nonpaper Office Products

-  **Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders**
-  **Office Furniture**
-  **Office Recycling Containers**
-  **Office Waste Receptacles**
  - Plastic Desktop Accessories
  - Plastic Envelopes
  - Plastic Trashbags
-  **Printer Ribbons**
-  **Toner Cartridges**


### 6. Vehicular Products

- Engine Coolants
- Rebuilt Vehicular Parts
- Re-Refined Lubricating Oils
- Retread Tires

### 7. Transportation Products

- Channelizers
- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

### 8. Miscellaneous Products

-  **Awards & Plaques**
  - Bike Racks
  - Blasting Grit
  - Industrial Drums
  - Manual-Grade Strapping
-  **Mats**
-  **Pallets**
  - Signage
  - Sorbents






## State Agencies Close the Loop with Paper Procurement

Paper is the most common recycled product purchased by state agencies. In 1990, RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials. One goal was that 60% of paper products purchased by the State of Missouri contain post-consumer materials by the year 2000. This goal was barely missed in FY10 as 56% of the overall paper purchased contained recycled content.

<b>FY10 Purchases of Recycled Paper Compared to Virgin Paper</b>					
<b>Product Category</b>	<b>Recycled Paper Purchases</b>	<b>Total Category Purchases (Recycled + Virgin)</b>	<b>Recycled Paper Purchases as a % of Total Purchases in Product Category</b>		
	<b>FY10</b>	<b>FY10</b>	<b>FY10</b>	<b>FY09</b>	<b>FY08</b>
<b>Fine Paper Products (office, copy, fax)</b>	<b>\$1,280,676</b>	<b>\$3,364,093</b>	<b>38%</b>	<b>43%</b>	<b>36%</b>
<b>Course Paper Products (napkins, towels, tissues)</b>	<b>\$2,904,484</b>	<b>\$4,357,587</b>	<b>67%</b>	<b>94%</b>	<b>83%</b>
<b>Forms (continuous &amp; snap out)</b>	<b>\$225,541</b>	<b>\$238,466</b>	<b>95%</b>	<b>95%</b>	<b>95%</b>
<b>Envelopes (Plain or Printed)</b>	<b>\$811,717</b>	<b>\$920,702</b>	<b>88%</b>	<b>77%</b>	<b>70%</b>
<b>Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)</b>	<b>\$972,204</b>	<b>\$2,190,400</b>	<b>44%</b>	<b>32%</b>	<b>29%</b>
<b>Overall Totals</b>	<b>\$6,194,622</b>	<b>\$11,071,248</b>	<b>56%</b>	<b>56%</b>	<b>54%</b>

### Environmental Benefits of Buying Recycled Paper

The State of MO spent \$1,280,676 on recycled "Fine Paper Products" in FY10. A majority of this paper is printer/copier paper made with 30% post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

	<b>8,163 trees</b>
	<b>2,380,875 gallons of water</b>
	<b>20,407 lbs. of air pollution</b>
	<b>1,394,512 kw/hours of electricity</b>
	<b>4.8 billion Btu – enough energy to power 46 homes in Missouri for a year!</b>

## FY10 Department Reports for Recycled Content Product Procurement

Non-Paper Recycled Content Procurement (All Figures Reported in Dollars)	Auditor's Office	Treasurer's Office	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Education	Health & Senior Services	Insurance, Financial Inst., Prof. Reg.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Social Services	Transportation	TOTALS
Antifreeze					154								67				\$221
Batteries- Rechargeable				50	2,707								2,148			16,500	\$21,405
Building- Construction							9,017					485,885	14,367			17,730	\$527,000
Cardboard Boxes					18,872	90	605	857	289	998		475	5,578	22,380			\$50,145
Glass Beads																1,892,000	\$1,892,000
Ink & Toner Cartridges	5,009	1,749	210	210	155,713	1,842	1,100	7,488	975	777	21,543	2,125	3,784	90	21,812	480	\$227,959
Janitorial Supplies				700	136,420	32	11,606	13,685	32	12,654	5,365	5,877	22,070			362	\$208,801
Metal Products					11,534		1,062	747	2,303		988		181,229	4,305,728		460,498	\$4,964,089
Nursery Supplies										1,573							\$1,573
Office Supplies		5,943	47	47	8,529					125	21,340		248,879				\$775,817
Playground Supplies										8,190							\$8,190
Promotional Items											581		7,301				\$7,882
Remanufactured Furniture										4,219							\$91,593
Vehicle Maintenance Supplies					26,038												\$26,038
Total Dollars Spent on Recycled-Content Products in FY10.																	\$8,802,712

**Note on Office Supplies:** The total appearing for Office Supply Products includes agency purchases of \$490,907. This information was supplied by the contractor.  
**Notes on cardboard boxes, janitorial supplies, and metal products:** A majority of procurement figures for these MVE products were captured for agencies that utilized commodity / service codes when placing orders for these items. See p. 22 for additional information on recycled content products provided by MVE.

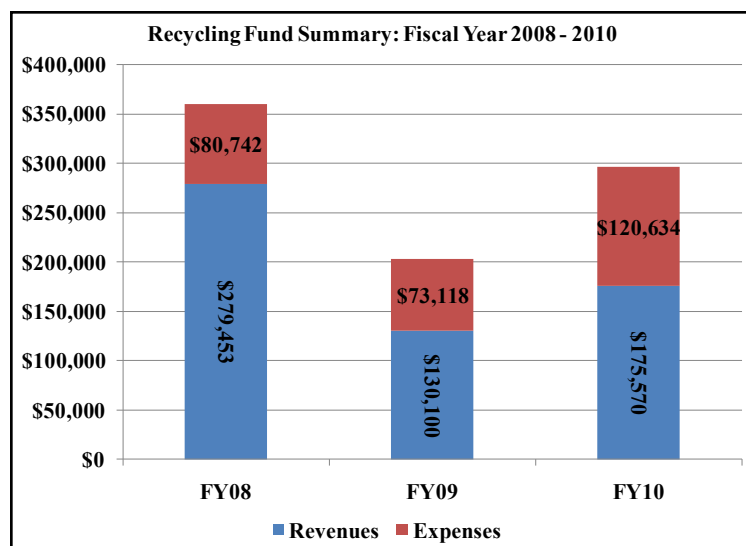
## II. FY10 Overview: Missouri's State Recycling Fund

Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

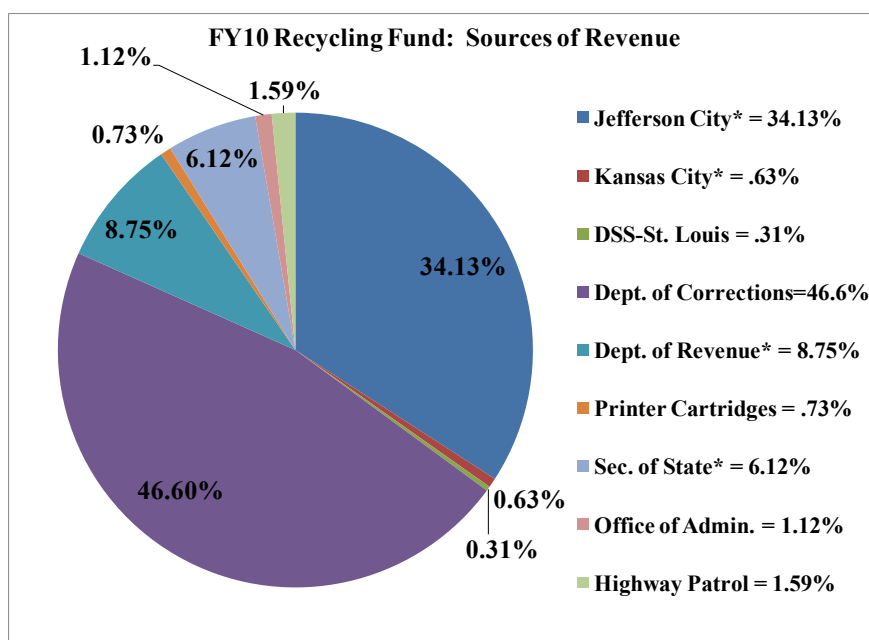
Recycling revenues increased 35% from FY09 to FY10 (see chart to the right). FY10 marked the second highest generation of revenues in the MO State Recycling Program's (MSRP) history.

In FY10 the MSRP distributed over 9,500 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded paper. In addition, over 800 recycling containers were provided to state agencies in FY10. A majority of these are being used for mixed office paper and the balance of containers is used for aluminum can and plastic bottle recycling. Other significant purchases made with monies from the State Recycling Fund included cardboard dumpsters for agencies in Jefferson City; containers for the Department of Revenue's paper recycling program; baler supplies and maintenance; and supplies for in-vessel composters located at Ozark Correctional Center and South Central Correctional Center.

The top three sources of revenue in FY10 were the Department of Corrections (47%), the Jefferson City recycling contract (34%) and Department of Revenue (9%). (see chart to the right) The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.



Expenses in the chart above include contributions to Utilicare and salary related expenses.

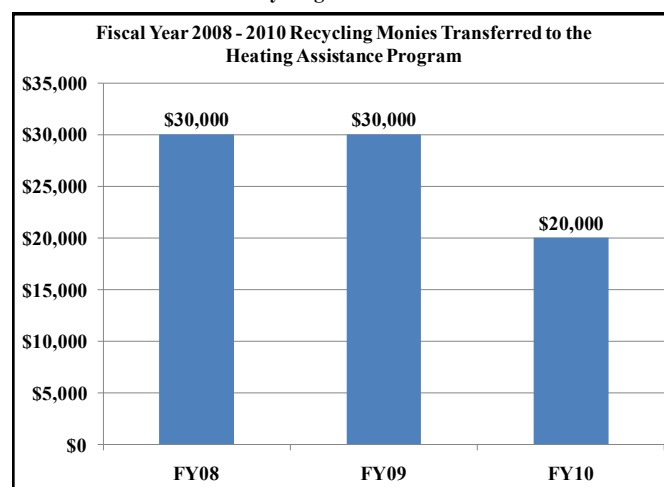


In the pie chart above, sources of revenue marked with an asterisk indicate a formal recycling contract.

### Contributions to the Heating Assistance Program (Utilicare)

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of **\$265,000** to the HAP since 1995.

As a result of state employee recycling efforts, the MSRP was able to make a **\$20,000** contribution to the HAP in FY10. The \$20,000 transferred to the HAP in FY10 will help approximately 100 households in Missouri to pay their heating bills.



### III. State Recycling Program Goals

#### FY10 Goal

**Goal:** Work with the Missouri Interagency Recycling Committee (MIRC) to develop and implement strategies for increasing the collection of mixed office paper in Jefferson City. Mixed office paper is the most valuable commodity in a state office building's waste stream. Value derived from mixed office paper collections helps to sustain state agency recycling initiatives throughout Missouri.

**Result:** State employees in Jefferson City operate under one paper recycling contract and two different document destruction contracts where significant amounts of paper are recycled. The State Recycling Program administers the Cole County Recycling Services contract and the Department of Revenue and Secretary of State each administer their own document destruction contracts. Each of these three contracts experienced an increase in the amount of paper recycled in FY10 as compared to FY09. The percentage increase in the amount of paper collected under each contract is listed below:

- **Cole County Recycling Services Contract: 3.7%**
- **Secretary of State Document Destruction Contract: 22.8%**
- **Department of Revenue Document Destruction Contract: 38.6%**

The State Recycling Program through its Interagency Recycling Committee (MIRC) was able to facilitate paper recycling for state agencies by distributing at least 700 paper recycling containers to agencies in FY10. The Interagency Recycling Committee was regularly reminded about the value of paper in the waste stream. In addition many MIRC members kept the recycling coordinator informed about special pick ups - such as pallet pick ups - to insure the State received proper payment for material collected. These actions resulted in an average 21.7% increase in paper recovered under these contracts.

#### FY11 Goal

**Goal:** Work with the Interagency Recycling Committee to establish a network of recycling teams located at various state facilities. The primary purpose of the recycling team is to oversee recycling systems at their location to insure these systems are running effectively. Recycling team members will only be responsible for monitoring recycling systems at their place of work. The State Recycling Coordinator will work with the Interagency Recycling Committee to have five teams established by the end of FY11.



## IV. Recycling Resources

### **Environmental Improvement and Energy Resources Authority / Market Development Program Missouri Department of Natural Resources**

Internet: <http://www.dnr.mo.gov/eiera/mo-market-dev-program.htm>

Email: [eiera@dnr.mo.gov](mailto:eiera@dnr.mo.gov)

Phone: 573-751-4919

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at <http://www.dnr.mo.gov/eiera/2008RecycledProductsDirectory.doc>

### **Missouri State Recycling Program**

#### **Office of Administration**

#### **Division of Purchasing & Materials Management**

Internet: <http://www.oa.mo.gov/purch/recypro.html>

Email: [recycling@oa.mo.gov](mailto:recycling@oa.mo.gov)

Phone: 573-751-2387

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

### **Missouri Vocational Enterprises (MVE)**

#### **Missouri Department of Corrections**

Internet: <http://www.doc.missouri.gov/mve>

Phone: 800-392-8486 or 573-751-6663

The Department of Corrections vocational training program offers the following products and services that meet “buy recycled” criteria. MVE products and services are only available to state agencies and other tax-supported entities.

### **Solid Waste Management Program**

#### **Missouri Department of Natural Resources**

Internet: <http://www.dnr.mo.gov/env/swmp/index.html>

Email: [swmp@dnr.mo.gov](mailto:swmp@dnr.mo.gov)

Phone: 800-361-4827 or 573-751-5401

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

#### **MVE Recycling/Remanufacturing/ Refurbishing Services**

- Tire Recycling Service  
573-635-3825
- Toner Cartridge Refill Service  
573-751-3224 ext. 1260
- Office Panel (cubicle) Refurbishing Service  
573-751-6663 or 800-392-8486

#### **MVE Recycled-Content Products**

- Cardboard boxes: 60% post-consumer content
- Plastic bags: 30% recycled material
- Metal products: 25–35% post-consumer content
- Toilet paper: 60% recycled material
- Envelopes: 30% post-consumer content



## **Corrections to FY10 State of Missouri Annual Recycling Report Updated February 10, 2011**

### **Fy10 Department Reports of Materials Recycled (p. 8)**

This table is a compilation of all data reported by contractors and state agencies. The following errors have been corrected.

**Cardboard:** Originally a figure of 515,202 lbs was reported as recycled through the Cole County Recycling Services contract. The correct figure for this contract is 558,772 lbs. The original total for this material was reported as 1,878,619 lbs. and the corrected total is 1,922,189 lbs.

**Mixed Office Paper:** Data reported by the statewide document destruction contract vendors was omitted in the total for this material. Contractors reported 1,074,154 lbs. of documents destroyed. The original total for this material was reported as 2,733,503 lbs. and the corrected total is 3,807,657 lbs.

**Total Pounds Recycled in FY10:** As a result of the omitted data mentioned above the original figure of 14,477,118 lbs. (7,239 tons) increased to 15,594,842 (7,797 tons).

### **Energy Reductions Related to Recycling (p. 10)**

The following statement originally read, "The amount of material recycled in FY10 resulted in an estimated reduction in energy use of 295,578,000,000 (nearly 3 billion) BTUs. 3 billion has been corrected to 300 billion.

### **State Agency Efforts Avoid Cost of Waste Disposal (p. 13)**

Since the "Total Pounds Recycled in FY10" (p.8) changed from 7,239 tons to 7,797 tons the "avoided cost of waste disposal" increased from \$307,658 to \$331,373.